IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant	: Joel A. Schwartz	Art Unit	: 3609
Serial No.	: 10/798,682	Examiner	: Branon C. Painter
Filed	: March 11, 2004	Conf. No.	: 6249
Title	: RIGID INSULATION PRODUCT		

Mail Stop Appeal Brief - Patents
Commissioner for Patents
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BRIEF ON APPEAL

Appellant is appealing the rejection of claims 1, 3-5, 7-9, 13-20, 22, and 23 in the Final Office Action of May 14, 2008. Applicant requests that the rejections be reversed.

(1) Real Party in Interest

Joel A. Schwartz.

(2) Related Appeals and Interferences

There are no related appeals or interferences.

(3) Status of Claims

Claims 1, 3-5, 7-9, 13-20, 22, and 23 are pending. Claims 2, 6, 10, 11, 12, 21, 32, and 33 have been cancelled. Claims 24-31 have been withdrawn. Claims 1, 3-5, 7-9, 13-20, 22, and 23 stand rejected. Appellant is appealing the rejections.

(4) Status of Amendments

The amendment filed on September 17, 2009 was not entered; see the Advisory Action dated December 3, 2009. All other correspondence have been entered.[1]

(5) Summary of Claimed Subject Matter

[1]Appellant filed an Amendment on December 14, 2009 to correct the dependency issue noted in the Notification of Non-Compliant Appeal Brief dated December 10, 2009. Appellant has assumed for purposes of this brief that the amendment has or will be entered.

Joists are horizontally-extending beams used in wood frame construction to support floors. The ends of joists are attached to a framing member called a joist header that extends in a direction perpendicular to the joists. The ends of a series of parallel joists are generally attached to a single joist header. It is common to insulate the joist header between the joists (page 1, lines 11-19):

> The builder then cuts pieces of fibrous insulation, e.g., glass fiber insulation, or rigid insulation to fit between each joist to insulate the joist header and prevent air infiltration. In some cases, the builder will caulk along the cracks between the rigid insulation, joists and joist header. Occasionally, the builder will spray foam insulation, e.g., a sprayable polyurethane, into these cracks and other spaces where there is no rigid insulation. With the exception of the latter construction practice, the 7" to 13" of wall height at the ends of joists tend to provide poor thermal protection, e.g., due to improperly installed glass fiber insulation that sags, air leakage through the fibers of fibrous insulation, or air leakage around cracks between pieces of rigid insulation and the floor joists where they meet the joist header.

The invention features a unitary insulation member that is used to insulate joist headers. Referring to Fig. 1, rigid insulating member 11 has a length L (typically 4' to 24') and a height H selected to match the height of typical joist headers (e.g., 7.15', 9.25', or 11.25') (p. 4, line 19-p. 5, line 3):

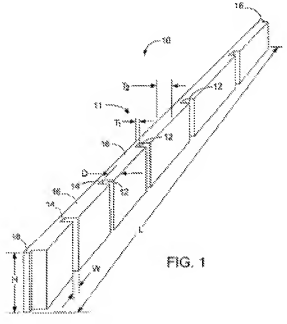

FIG. 1

Rigid insulating member 11 includes a plurality of slots 12 having a width W that generally matches the width of manufactured joists. See page 4, line 27-page 5, line 16. As appellant explains (page 2, lines 5-12):

> The rigid insulation products discussed above act as an air barrier to prevent or inhibit air infiltration over the tops of foundation walls between floor joists and over the tops of wood framed walls with wood floor joists. The rigid insulation products can be quickly and easily installed without cutting and fitting and without the need for additional steps such as caulking or spraying of foam insulation. The products also provide a guide for installing joists on uniform centers, simplifying construction, reducing errors in measurement and speeding floor joist layout during construction. If desired, the builder can easily cut additional slots for joists that are not on center, e.g., using a hot wire blade or knife.

There are two independent claims on appeal. Claim 1 covers the rigid insulating members shown in Fig. 1 and discussed on page 4, line 19 - page 6, line 4.:

> 1. A rigid insulation product for use in wood frame construction, comprising a single unitary insulating member formed of a single **rigid cellular insulating material having substantially uniform rigidity** (see page 4, lines 19-21 and Fig. 1), dimensioned to be mounted lengthwise on a joist header (see page 4, lines 19-21 and Fig. 1) and including a plurality of slots extending width-wise into the single rigid insulating material across one side of the member (see page 4, lines 27-28 and Fig. 1), each slot being dimensioned to receive an end of a floor joist, the member including a wall, at the base of each slot, having a thickness of at least about 0.375 inch and less than about 1.0 inch (see page 5, lines 24-25 and Fig. 1), and the member having a thickness, in regions between the slots, of from about 1.0 to about 3.0 inches (see page 5, lines 25-26 and Fig. 1).

The language "rigid cellular insulation material having substantially uniform rigidity" is shown in boldface in claim 1. This language will be the focus of the appeal of the rejection of claim 1. "Rigid cellular insulating material" is being used in its ordinary and accustomed sense in the building trades to encompass stiff, inflexible materials.[2] Such materials include, in particular, foams having only minimal amounts of open cells. The language "having substantially uniform rigidity" merely means that the rigidity of the insulating material is the same throughout the member.

Claim 13, the second independent claim, reads as follows:

> 13. A rigid insulation product for use in wood frame construction, comprising:

[2]See, for example, the general definitions from Merriam-Webster online and Dictionary.net of the term rigid

a single unitary thermal insulating member comprising a **rigid** cellular insulating material **having substantially uniform rigidity** (see page 4, lines 19-21 and Fig.1), including a plurality of slots extending width-wise across the member on a first side of the member, each slot being exposed to receive an end of a floor joist (see page 4, lines 27-28 and Fig. 1); and

a wood member, **configured so that the wood member will function as a joist header in a wood frame construction**, bonded to the insulating member on a second side of the member opposite the first side (see page 6, lines 19-20 and Fig. 2).

An example of a rigid insulation product covered by claim 13 is shown in Fig. 2 and discussed on page 6, lines 18-30. Claim 13 differs from claim 1 in that it covers a product including an insulating member including the rigid insulating material and a wood member, bonded to the insulating member, that is "configured so that the wood member will function as a joist header." The limitations "rigid", "having substantial uniform rigidity", and "configured so that the wood member will function as a joist header" are shown in boldface in claim 13 because they will be the focus of the appeal. "Configured so that the wood member will function as a joist header" is self-explanatory -- the wood member is sized so that it can function as a joist header.

(6) Grounds of Rejection to be Reviewed on Appeal

Claims 1, 3-5, and 7-9 have been rejected under 35 U.S.C. § 102(b) as being anticipated by Grinshpun et al., U.S. Pat. 6,226,943 ("Grinshpun").

Claims 13-20, 22, and 23 have been rejected under 35 U.S.C. § 103(a) as obvious over Grinshpun in view of Charlson, U.S. Pat. 6,125,608 ("Charlson").

Appellant requests reversal of all of the 35 U.S.C. § 102(b) and 35 U.S.C. § 103(a) rejections.

Appellant will be addressing only the rejections of independent claims 1 and 13. The dependent claims are patentable at least for the same reasons that the base independent claims are patentable.

(7) Argument

(A) Claims 1, 3-5, and 7-9 are not anticipated under 35 U.S.C. § 102(b) over Grinshpun

Appellant will first discuss Grinshpun and then will explain why the 35 U.S.C. § 102(b) rejection of claim 1 based on Grinshpun should be reversed.

Grinshpun is directed to an insulating polymer foam sheet including a plurality of grooves. The sheet is large; Grinshpun uses the sheet to insulate entire walls. The walls include vertically-extending structural members -- generally wooden studs -- that run from floor to ceiling. The grooves extend along the vertical length of the sheet. In use, the sheets typically are mounted between the exterior of the building and the support frame for the wall. The studs are pushed into the grooves at some point during assembly.

Importantly, at least a portion of Grinshpun's foam sheet, adjacent the groove, is "compressible and resilient." In fact, Grinshpun divides foams into two categories: (1) "flexible and resilient", and (2) "rigid." Grinshpun even provides a test for distinguishing "flexible and resilient" foams from "rigid" foams (col. 5, lines 26-34):

> A "compressible and resilient" foam as used herein means that an applied load of 15 psi will compress and deform a 4-inch thick section of the foam by at least 10 percent, but that such deformation is at least 80 percent reversible when the load is removed. Further, the term "rigid" foam as used herein means that a 15-psi load will compress a 4-inch thick sample of the foam by less than 10 percent, according to ASTM Test No. D-161-94.

Grinshpun teaches that foams including greater than 20% open cells should be used to achieve the desired compressibility and resiliency (col. 5, lines 43-48):

> The compressible and resilient foam preferably has from 20 to 80 percent of open cells. Preferably, the foam has at least 30 percent open cells, more preferably at least 35 percent open cells, and most preferably at least 40 percent; but preferably no more than 70 percent, more preferably no more than 60 percent, according to ASTM D2856-94.

Grinshpun also recognizes that his flexible and compressible foam sheets are not rigid and thus may need rigid structural support. Grinshpun provides the added support by attaching a "rigid foam backing" to the rear of his flexible and compressible foam sheet. See col. 4, lines 27-42.

Thus, Grinshpun teaches using foam sheets including grooves in which at least a portion of the foam sheet is flexible and resilient, and not rigid. Given that claim 1 requires using a

"rigid cellular insulating material having a substantially uniform rigidity", it is a bit surprising that the Examiner contends that claim 1 lacks novelty over Grinshpun's foam sheets. Appellant will explain how Examiner erred, after first discussing the applicable law.

35 U.S.C. § 102(b) provides in pertinent part:

> A person shall be entitled to a patent unless---
>
> * * *
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of the application for the patent in the United States....

A claim is unpatentable under 35 U.S.C. § 102(b) if a prior art reference expressly or inherently discloses a product including every limitation required by the claim. See Schering Corp. v. Geneva Pharmaceuticals, 339 F.3d 1373, 1379 (Fed. Cir. 2003). A reference expressly anticipates a claim if the reference expressly discloses every limitation in the claim. A reference that does not expressly disclose every limitation in the claim may nevertheless anticipate the claim if the reference inherently discloses the limitation that is not expressly disclosed. But a reference inherently anticipates a claim only if a person of ordinary skill in the art necessarily would obtain the claimed subject matter when practicing the reference. See Ex parte Levy, 17 U.S.P.Q. 2d 1461, 1464 (1990), in which the Patent and Trademark Office Board of Patent Appeals and Interferences explained (emphasis in original):

> In relying upon the theory of inherency, the examiner must provide a basis in fact and/or technical reasoning to reasonably support the determination that the allegedly inherent characteristic necessarily flows from the teachings of the applied prior art. In re King, 801 F.2d 1324, 231 USPQ 1 36 (Fed. Cir. 1986); W.L. Gore & Associates , Inc. v. Garlock, Inc., 721 F.2d 1540, 220 USPQ 303 (Fed. Cir. 1983); In re Oelrich, 666 F.2d 578, 212 USPQ 323 (CCPA 1981); In re Wilding, 535 F.2d 631, 190 USPQ 59 (CCPA 1976); Hansirg v. Kemmer, 102 F.2d 212, 40 USPQ 665 (CCPA 1939).

Similarly, the court in In re Oelrich, 666 F.2d 578, 581 (C.C.P.A. 1981) observed (emphasis original):

> Inherency, however, may not be established by probabilities or possibilities. The mere fact a certain thing may result from a given set of circumstances is not sufficient. (Citations omitted).

Grinshpun does not expressly disclose a rigid foam sheet, having slots or grooves, that has a uniform rigidity. Indeed, Grinshpun expressly discloses that at least a portion of his foam sheet is resilient and compressible and, by Grinshpun's explicit definition, not rigid. Thus, Grinshpun does not expressly disclose the insulating member formed of a "rigid cellular insulation material ... having substantially uniform rigidity," as required by claim 1. As a result, Grinshpun does not expressly anticipate claim 1.

Thus, the Examiner's anticipation rejection appears to be grounded in inherency. Grinshpun expressly states that his resilient and compressible foams are not rigid, based on a quantitative test. Grinshpun also teaches that his foams should include a substantial amount (greater than 20% or 30%) of open cells. In contrast, as discussed previously, appellant is using "rigid cellular insulating material" in its ordinary and accustomed sense to mean cellular materials, like foams, that are stiff and inflexible. However, the Examiner apparently is contending that there is some remote chance that a compressible and resilient foam (as defined by Grinshpun) might inherently overlap with appellant's rigid cellular insulating materials..

But, even assuming that a stiff, inflexible foam exists somewhere that would meet Grinshpun's test for compressibility and resiliency, Grinshpun still would not inherently anticipate claim 1. Anticipation by inherency requires that a person practicing Grinshpun would necessarily use a compressible and resilient foam (according to Grinshpun's test) that also qualified as the rigid cellular insulation material required by claim 1. But the mere remote possibility that this theoretically could happen does not come close to meeting the requirements for inherency.

Thus, Grinshpun does not anticipate claim 1 expressly or inherently. As a result, the 35 U.S.C. § 102(b) rejection of claim 1 should be reversed. Claims 3-5 and 7-9 depend from claim 1 and the 35 U.S.C. § 102(b) rejection of these claims should be reversed for the same reasons.

(B) Claims 13-20, 22, and 23 would not have been obvious under 35 U.S.C. § 103(a) over Grinshpun in view of Charlson

Claim 13 covers a rigid insulation product that includes the insulating member of claim 1 bonded to a wood member that is "configured so that the wood member will function as a joist header." Basically, the product is a joist header that is pre-insulated.

35 U.S.C. § 103(a) provides in relevant part:

> (a) a patent may not be obtained... if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains.

The inquiry made to determine whether claimed subject matter would have been obvious under 35 U.S.C. § 103(a), and therefore unpatentable, is well established and requires examining: (1) the scope and content of the prior art; (2) the differences between the claimed invention and the prior art; (3) the level of ordinary skill in the art; and (4) secondary considerations of non-obviousness, such as commercial success, copying of the invention, and long-felt need for the invention. See Graham v. John Deere Co., 383 U.S. 1, 17-18 (1996). But in order to find a claim obvious under 35 U.S.C. § 103(a), the prior art must provide a reason to modify the prior art to obtain the subject matter covered by the claim. See KSR Ind. Co. v. Teleflex, Inc., 127 S. Ct. 1725, 1742 (2007).

Appellant has already discussed Grinshpun. Charlson discloses insulated framing members for buildings. An example of Charlson's framing member is shown in Figure 14, which the Examiner refers to on page 7 of the May 14, 2008 final office action:

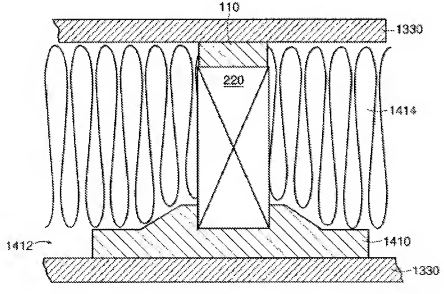

FIG. 14

Figure 14 is a sectional view showing the insulated framing member. Member 220 can be, for example, a stud used in constructing a wall or a joist used in a ceiling to support a floor. Member 220 is enclosed within wallboard/sheathing 1330; insulators 110 and 1410 extend along the length of the member 220.

The Examiner contends that "it would have been obvious… to modify the insulation panel of Grinshpun by bonding a wooden sheathing member [1330 in Figure 14 of Charlson] to its unslotted surface as taught by Charlson." The Examiner apparently believes that by making this combination, the insulation product covered by claim 13 would be obtained. The Examiner is wrong for at least two reasons.

Firstly, even if Charlson's wooden sheathing member is combined with Grinshpun's insulation panel, the rigid insulation product covered by claim 13 would not be obtained. Grinshpun plainly teaches using rigid foam backings as support for flexible and compressible foams that need rigid structural support. A flexible and compressible foam would not need rigid structural support if they themselves were rigid. Thus, even if Charlson's wooden sheathing is substituted for Grinshpun's rigid foam backing, the flexible and compressible foam sheet used with the backing would not be the "rigid cellular insulating material" as required by claim 13.

Secondly, claim 13 requires that the wooden member used in the rigid insulation product "is configured so that the wood member will function as a joist header." The foam sheets described by Grinshpun, like the wood sheathing described by Charlson, are sized to cover the length of entire walls. The wood sheathing is not designed and constructed to function as a joist header and, indeed, cannot function as a joist header.

The Examiner conveniently contends that the limitation "configured so that the wood member will function as a joist header" is a statement of intended use and that therefore "it is given little patentable weight." See page 7 of May 14, 2008 final office action. But the law is clear that limitations of this type count as claim limitations and must be considered in evaluating the scope of the claim. See Pac-Tec, Inc. v. Amerace Corp., 903 F.2d 976, 801 (Fed. Cir. 1990) (functional language in body of claim should not be disregarded). The Examiner is not free to simply ignore a claim limitation.

Thus, the 35 U.S.C. § 103(a) rejection of claim 13 over the combination of Grinshpun and Charlson should be reversed. Claims 14-20, 22, and 23 depend from claim 13 and the 35 U.S.C. § 103(a) rejection of these claims should be reversed for the same reasons.

(8) Conclusion

For the above reasons, the 35 U.S.C. § 102(b) rejection of claims 1, 3-5, and 7-9 based on Grinshpun and the 35 U.S.C. § 103(a) rejection of claims 13-20, 22, and 23 based on Grinshpun in view of Charlson should be reversed.

Applicants previously applied the $270.00 appeal brief fee and the $1,175.00 Petition for Five-Month Extension of Time fee to Deposit Account No. 06-1050, referencing attorney docket no. 10189-002001. Please apply any other charges or credits to that Deposit Account

Respectfully submitted,

Date: January 11, 2010

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Appendix of Claims

1. A rigid insulation product for use in wood frame construction, comprising a single unitary insulating member formed of a single rigid cellular insulating material having substantially uniform rigidity, dimensioned to be mounted lengthwise on a joist header and including a plurality of slots extending width-wise into the single rigid insulating material across one side of the member, each slot being dimensioned to receive an end of a floor joist, the member including a wall, at the base of each slot, having a thickness of at least about 0.375 inch and less than about 1.0 inch, and the member having a thickness, in regions between the slots, of from about 1.0 to about 3.0 inches.

3. The rigid insulation product of claim 1 wherein the member includes a wall, at the base of each slot, of sufficient thickness to provide a thermal break between a floor joist end and a joist header when the product is in use.

4. The rigid insulation product of claim 1 wherein the width of the insulating member is substantially equal to the width of a joist header on which the insulating member will be mounted.

5. The rigid insulation product of claim 1 wherein the slots extend across the entire width of the insulating member.

7. The rigid insulation product of claim 1 wherein the insulating member comprises an insulating material selected from the group consisting of cellular polystyrene, polyurethane and isocyanurate, other cellular plastics, and cellulose.

8. The rigid insulation product of claim 1 wherein at least some of the slots are dimensioned to receive an end of a wood I-beam.

9. The rigid insulation product of claim 1 wherein the slots are spaced at intervals of about 16 inches.

13. A rigid insulation product for use in wood frame construction, comprising:

a single unitary thermal insulating member comprising a rigid cellular insulating material having substantially uniform rigidity, including a plurality of slots extending width-wise across the member on a first side of the member, each slot being exposed to receive an end of a floor joist; and

a wood member, configured so that the wood member will function as a joist header in a wood frame construction, bonded to the insulating member on a second side of the member opposite the first side.

14. The rigid insulation product of claim 13 wherein the slots are disposed at spaced intervals, the spacing of the slots corresponding to predetermined spacing of floor joists in a wood frame construction.

15. The rigid insulation product of claim 13 wherein the insulating member includes a wall, at the base of each slot, of sufficient thickness to provide a thermal break between a floor joist end and a joist header when the product is in use.

16. The rigid insulation product of claim 13 wherein the width of the insulating member is substantially equal to the width of the wood member.

17. The rigid insulation product of claim 13 wherein the slots extend across the entire width of the insulating member.

18. The rigid insulation product of claim 13 wherein the insulating member comprises an insulating material selected from the group consisting of cellular polystyrene, polyurethane and isocyanurate, other cellular plastics, and cellulose.

19. The rigid insulation product of claim 13 wherein at least some of the slots are dimensioned to receive an end of a wood I-beam.

20. The rigid insulation product of claim 14 wherein the slots are spaced at intervals of about 16 inches.

22. The rigid insulation product of claim 15 wherein the wall has a thickness of at least 0.375 inch.

23. The rigid insulation product of claim 13 wherein the insulating member has a thickness, in regions between the slots, of from about 1.0 to 3.5 inches.

Evidence Appendix

None.

Related Proceedings Appendix

None.